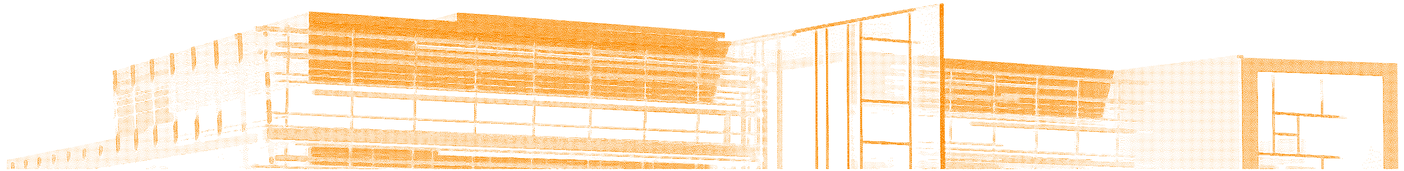

sisma

Via dell’Industria 1
36013, Piovene Rocchette (VI)
Italia

info@sisma.com
www.sisma.com

# Why Scrum and Agile?

- To reduce time to market
- To deal with the increasing complexity of the product and the rising customer expectation
- To deal with unclear and emergent requirements from client and changes during the development
- To be able to respond and adapt to specific markets with different success factors



# MANAGEMENT TRAINING AND LIFTOFF

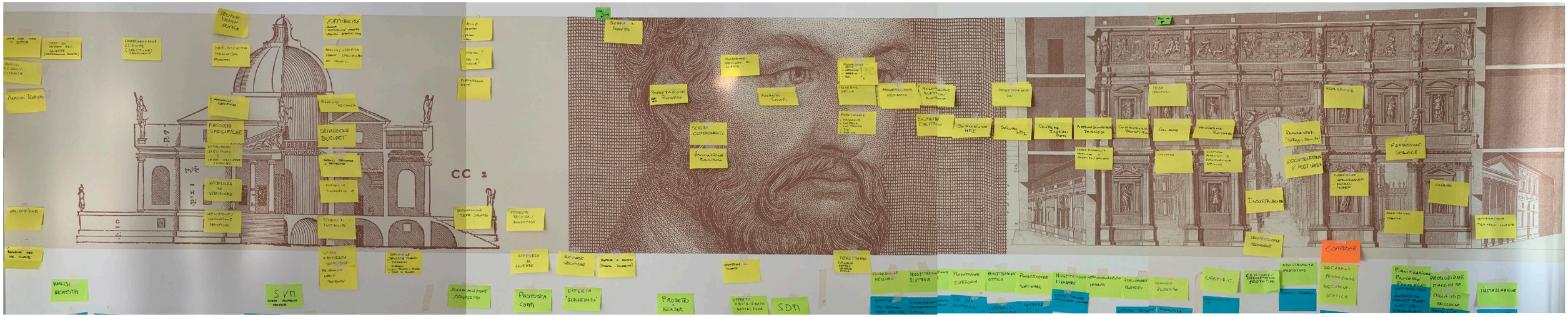
- The **management team** is composed by the CEO, CFO, Head of HR, Head of R&D, Head of Production, Head of Sales&Marketing.
- They got trained about **Agile**, **Scrum** and **Scrum@Scale**.
- After the training they discussed in a management workshop the vision and the strategy for the Agile Transformation.




Case Study By
**Paolo Sammicheli**

# VALUE STREAM MAP

- During a workshop involving about 25 people, we mapped all the tasks of the selected Value Stream: **Laser Machining**.
- The value stream map captured all the concept-to-cash activities: from pre-sale until installation and post-sale customer services.

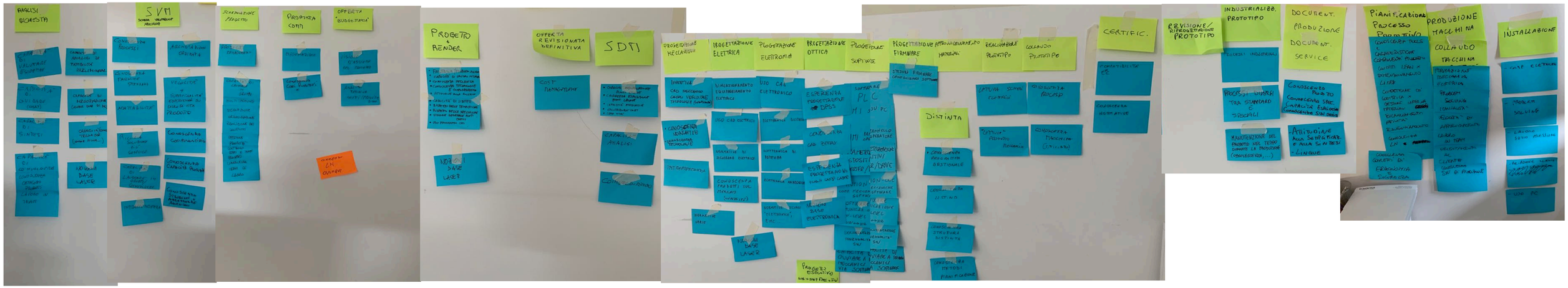




Case Study By
**Paolo Sammicheli**

# SKILL MAPPING

- In the same workshop, for each macro-step of the value stream map, we mapped the needed skills.
- The mapped skills included competencies (hard skills), domain (customer engineering process), and soft skills.

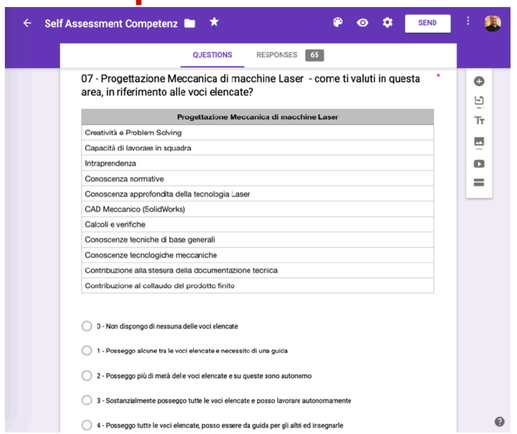




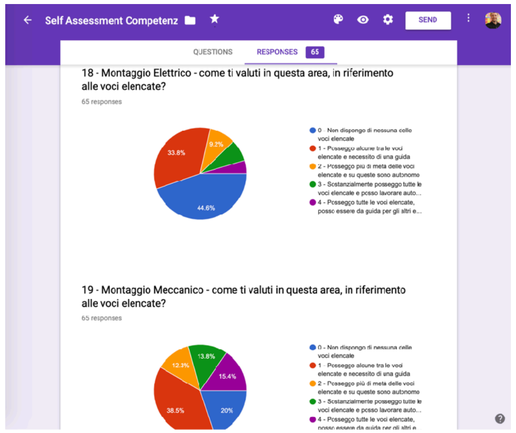

Case Study By
**Paolo Sammicheli**

# SKILL MATRIX

- The identified skills have been categorized into 15 profiles.
- We asked to the all R&D Department workforce to self evaluate themselves in the 15 profiles, to build their skill matrix.
- Levels vary from Beginner (can operate but with mentoring) to Senior (can operate autonomously) and Master (can teach).




Self Assessment Web Form




Results from the entire R&D Department

| NOME | | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gianni Panizzon | 4 | 4 | 2 | 3 | 3 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 4 | 4 |
| Christian Lorenzato | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 1 |
| Paolo Bonotto | 1 | 1 | 1 | 0 | 2 | 2 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 3 | 1 |
| Marco Pietrobelli | 1 | 1 | 2 | 1 | 2 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 3 | 1 |
| Matteo Fava | 2 | 1 | 1 | 0 | 2 | 2 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 3 | 2 |
| Matteo Rigotto | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 3 |
| paolo fabris giuseppe | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 |
| Franco Beber | 2 | 2 | 3 | 1 | 3 | 1 | 1 | 1 | 0 | 2 | 4 | 4 | 2 | 1 | 0 | 2 | 4 | 2 | 1 |
| Michele Ferretto | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 2 | 1 | 1 | 0 | 1 | 1 | 2 | 1 | 2 | 1 |
| Carlo Freguglia | 1 | 2 | 0 | 0 | 1 | 2 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 4 |
| Gabriele cattelan | 1 | 2 | 1 | 1 | 2 | 2 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 4 |
| Filippo Cristofori | 1 | 3 | 2 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 2 | 1 |
| Riccardo Fantin | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 2 | 1 | 1 | 1 | 0 | 2 | 3 | 2 | 1 | 1 |
| Maurizio Marcato | 4 | 4 | 4 | 4 | 4 | 4 | 1 | 1 | 0 | 2 | 2 | 2 | 1 | 2 | 1 | 2 | 2 | 1 | 1 |
| Federico Creazzo | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 2 | 0 | 1 | 1 |
| Carlo Tessaro | 3 | 4 | 2 | 2 | 4 | 3 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 3 | 1 | 2 | 1 | 1 |
| Emanuele Cudiferro | 2 | 2 | 3 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Flavio Zaccaria | 1 | 1 | 2 | 1 | 2 | 2 | 3 | 4 | 4 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 |
| Luca Zanon | 2 | 3 | 3 | 3 | 2 | 3 | 3 | 3 | 3 | 1 | 1 | 1 | 1 | 0 | 2 | 1 | 0 | 1 | 3 |
| Davide Lotto | 2 | 3 | 3 | 0 | 3 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 1 | 1 | 1 | 1 |
| Federico Cumerlato | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 3 | 1 | 0 |
| Roberto Lanci | 3 | 2 | 2 | 0 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 2 |
| Alessandro Cantele | 2 | 2 | 2 | 1 | 4 | 2 | 3 | 2 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 4 |
| Emanuele Corà | 2 | 3 | 2 | 1 | 4 | 2 | 4 | 4 | 1 | 1 | 1 | 0 | 1 | 2 | 1 | 0 | 0 | 1 | 4 |

Data Export to Spreadsheet

**NOME**

| 01 - Analisi delle Richieste | 06 - Scheda Definizione Macchina | 11 Progettazione Elettronica analogica | 16 Progettazione Software PLC/CNC |
|---|---|---|---|
| VALUE | VALUE | VALUE | VALUE |
| 02 - Scheda Valutazione Macchina | 07 - Progettazione Meccanica macchine Laser | 12 Progettazione Elettronica digitale | 17 Progettazione Firmware |
| VALUE | VALUE | VALUE | VALUE |
| 03 - Schedulazione Progetto | 08 - Meccanica di macchine Laser con automazione | 13 Progettazione Elettronica di potenza | 18 Montaggio elettrico |
| VALUE | VALUE | VALUE | VALUE |
| 04 - Proposta commerciale ed economica | 9 Progettazione Meccanica Macchine Catena | 14 Progettazione Ottica | 19 Montaggio meccanico |
| VALUE | VALUE | VALUE | VALUE |
| 05 - Definizione Progetto | 10 Progettazione Elettrica | 15 Progettazione Software | |
| VALUE | VALUE | VALUE | |

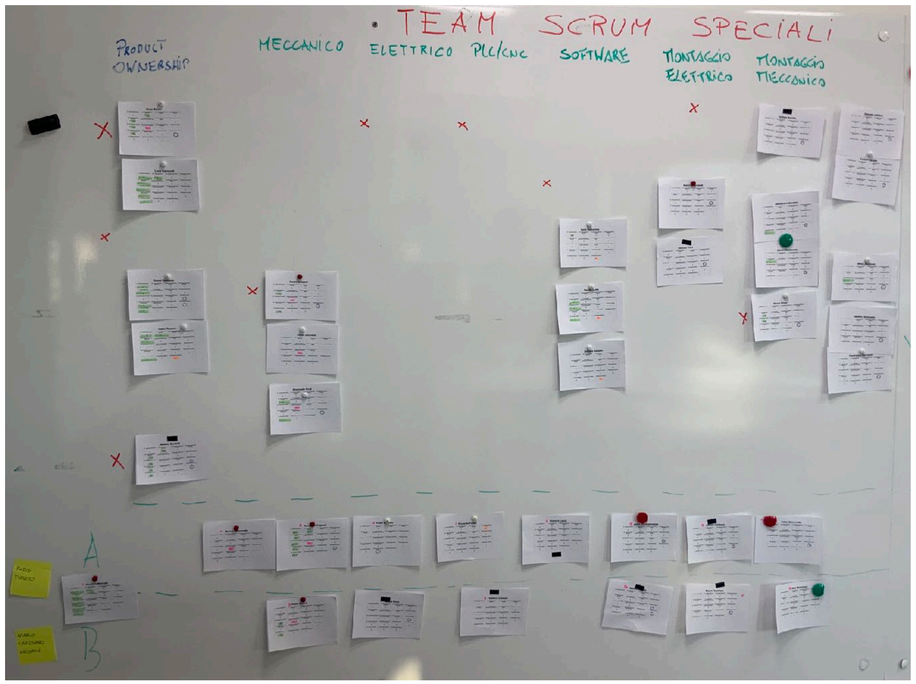
Skill Matrix Card for each employee

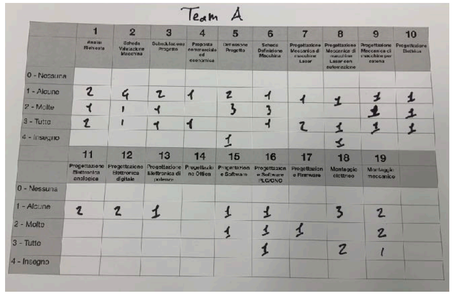


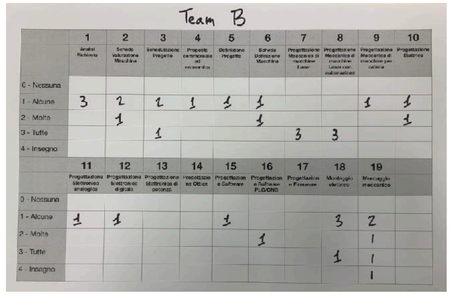
Case Study By
**Paolo Sammicheli**

# TEAM FORMATION

- Using the **Skill Matrix Cards**, the management discussed different team composition to find out a balanced set of skills.
- Between letting the team to self form or defining them upfront, the management used a mixed approach: defined the teams and then asked feedbacks.
- We draw a **Team Skill Heat Map** with the distribution of the skills for the entire team that gives a clue about what kind of skills the team needs to learn to be more productive and resilient.



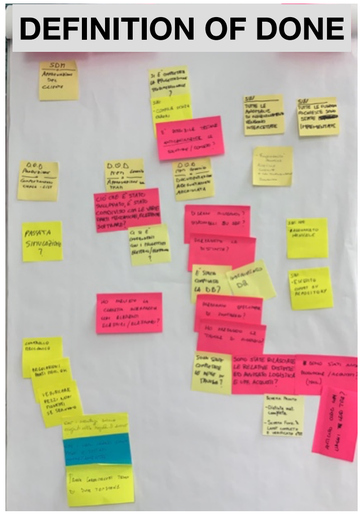



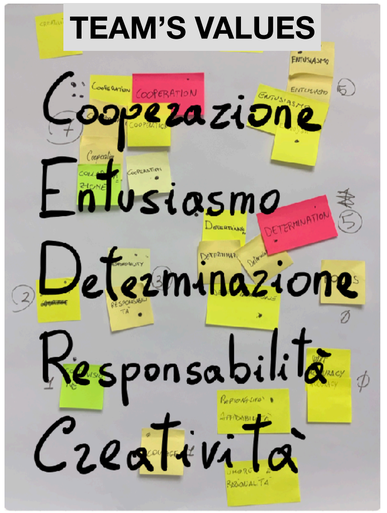



Case Study By
**Paolo Sammicheli**

# PILOT: SPECIAL LASER MACHINES

- The identified Pilot Team was the one in charge of building customized laser machines.
- 16 people involved, including 5 production specialists and 1 service specialist.
- Since the number of the team member was more than 9, we formed a Team of Teams of two: the "**Dual Core Team**" Pattern.

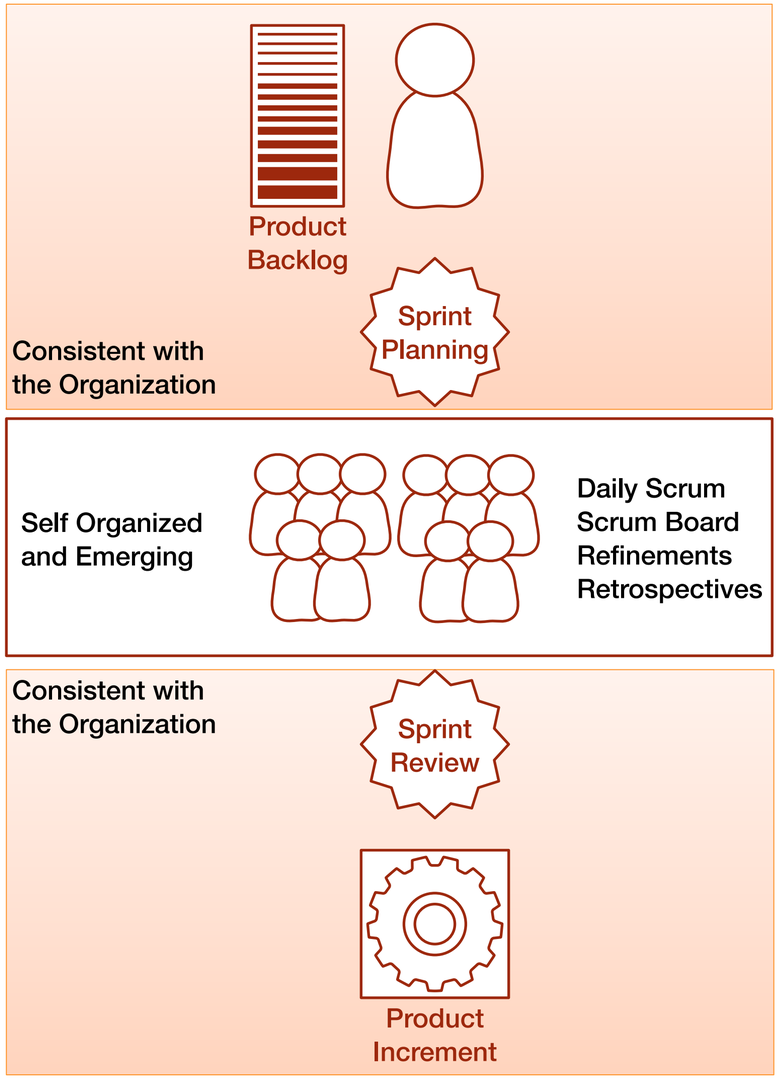






Case Study By
Paolo Sammicheli

# Scrum “Dual Core” Team

- It uses the metaphor of a computer processor to explain the concept of **Team of Teams**: «users don’t mind which core is processing the task; they mind end performance.»
- **One** Product Owner, **One** Backlog
- **One** Planning, **One** Increment, **One** Review
- The other Scrum Events, not exposed to the external organization, the team members will self organize to find out how better doing it: Separated, All Together, Together but with a representative.

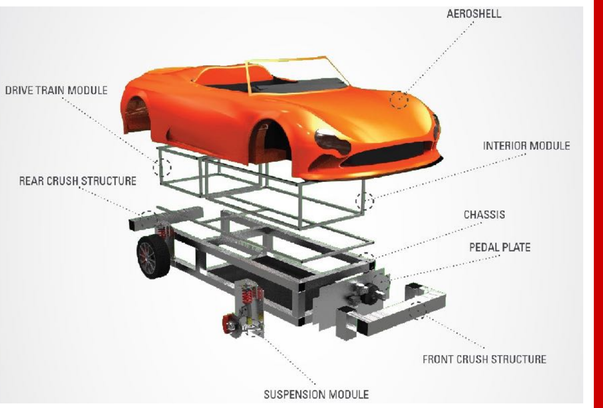





Case Study By
**Paolo Sammicheli**

# TRAINING

- Two days of Standard Scrum Training.
- One day of Scrum for Hardware: eXtreme Manufacturing and Hardware Case Studies.
- Final exercise: the Marshmallow Challenge

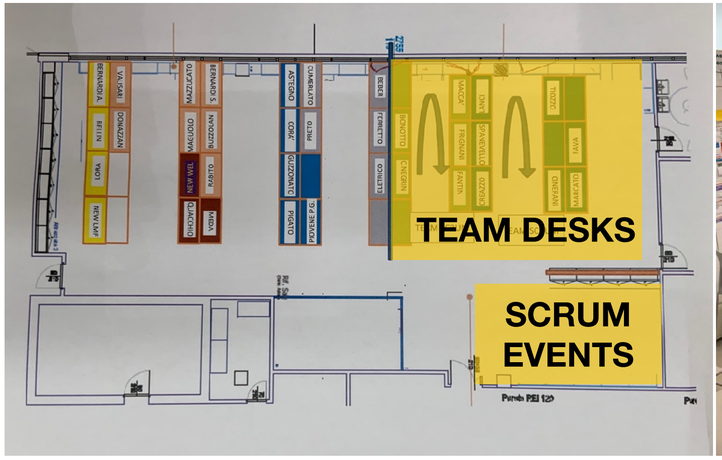



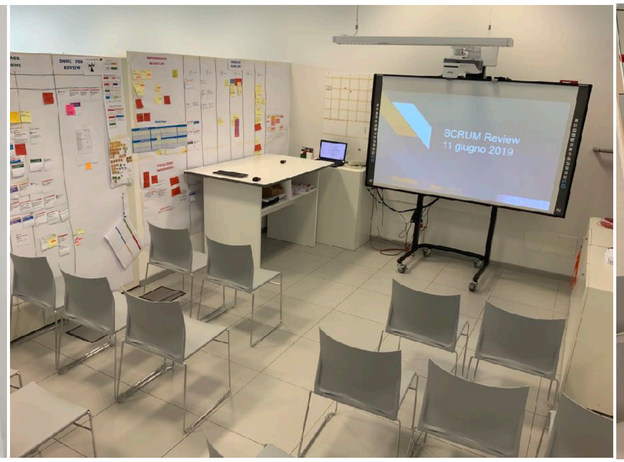


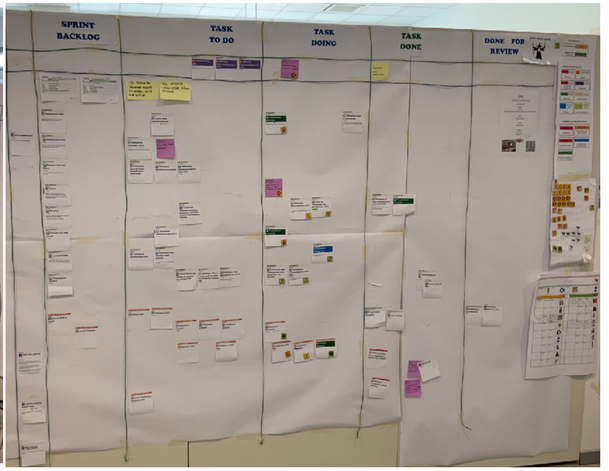

Case Study By
**Paolo Sammicheli**

# TEAM SPACE

- We needed to reorganize the Office Space to make the Scrum Team Member work in a touching distance.
- A specific area has been designated for the Scrum Events and the Scrum Board.






Case Study By
**Paolo Sammicheli**

# BUFFET PLANNING

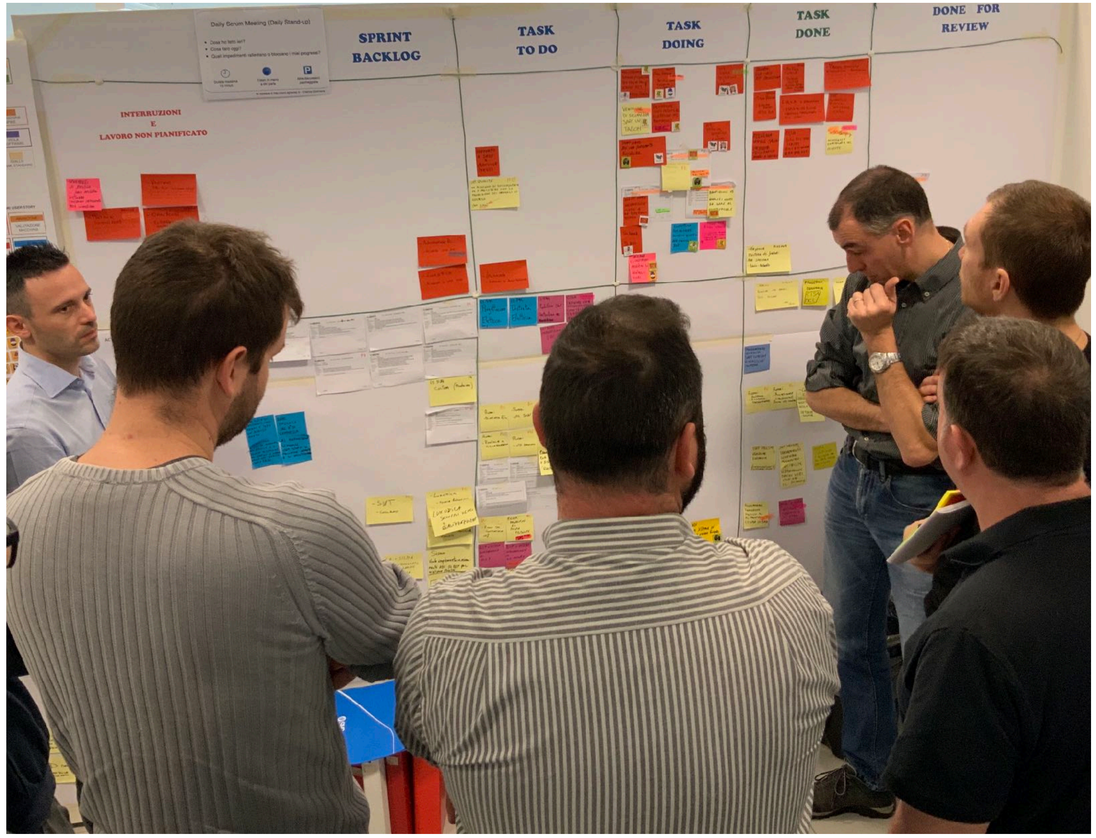
- We behave like a real buffet: you can't take too little, because it would not be polite, but you can't take too much because you have to eat whatever you take.
- A very energetic meeting where discussions took place spontaneously; a managed chaos.
- No chairs in the room: the result is short and concise discussions.




Case Study By
Paolo Sammicheli

# DAILY SCRUM

- The two daily meetings, one after the other. Most of the team members observe other team daily.
- The discussion is done following the flow of the work rather than individual activities.
- Sometimes the task is developed in pairs by people of the needed skills rather than the specific team.
- The production tasks are in a specific board with wheels that can be moved close to the production area.






Case Study By
Paolo Sammicheli

# PRODUCT BACKLOG REFINEMENT

- Just as anybody, this is the event that takes time to learn. This team started doing it all together and then decided to do it sending a representative.
- Useful facilitation technique: Triple Nickels Retrospective adapted to Refinement.
- We sit in a circle, including the PO, working in pairs. Each pair pick up a story, append with post-its pieces of information, comments, and questions and pass it to the next pair. If a pair agree that the story is ready, they apply a Green Label. After one full round, the story with more than 3 green labels are called ready, and the PO clarify the remaining stories.



Case Study By
Paolo Sammicheli

# SPRINT REVIEW

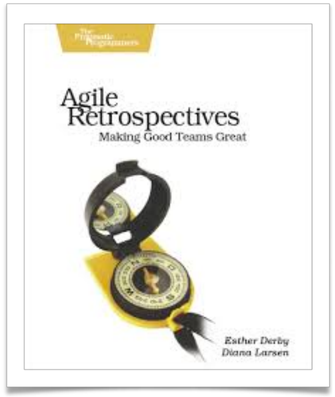
- The review covers increments from pre-sale to shipment and one-site installation, using 3D models, diagrams, simulations, photos, and videos.
- The production site area is next door, most of the time, the conversation continues in front of the real machine, if it’s not already shipped.
- With Scrum for Hardware “shipped” means that the product it’s on a truck on the way to the customer! It’s not easy like with software! 😀



Case Study By
Paolo Sammicheli

# SPRINT RETROSPECTIVE

- Not much different from any other Scrum Team.
- The team decided to have this Scrum Event collectively.
- Facilitation technique allows to respect the time box:
  - Glad, Sad, Mad
  - Like, Learn, Lack
  - Starfish
  - Sprint Timeline
  - etc.



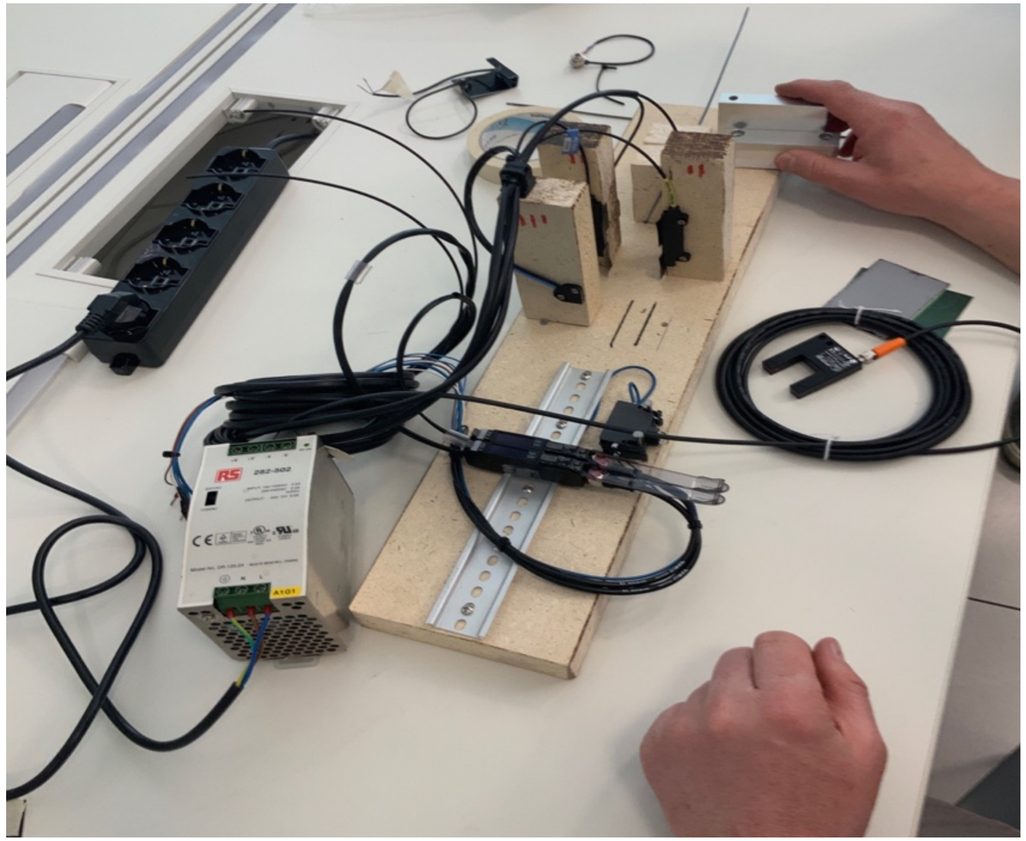




Case Study By
Paolo Sammicheli

# PROTOTYPING ALLOWS SHORT FEEDBACK LOOP

- Single module redesign can be quickly prototyped to reduce risks.
- Prototyping lead time stays within one Sprint.
- Prototype practices include the use of wood, 3d printing, and manually shaped aluminum.
- It’s the equivalent of Software Team’s Spikes.

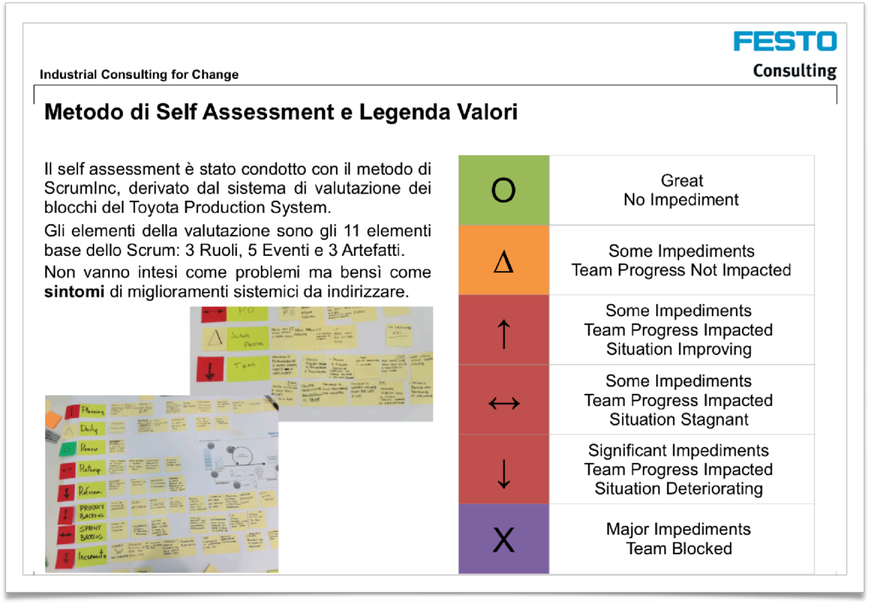


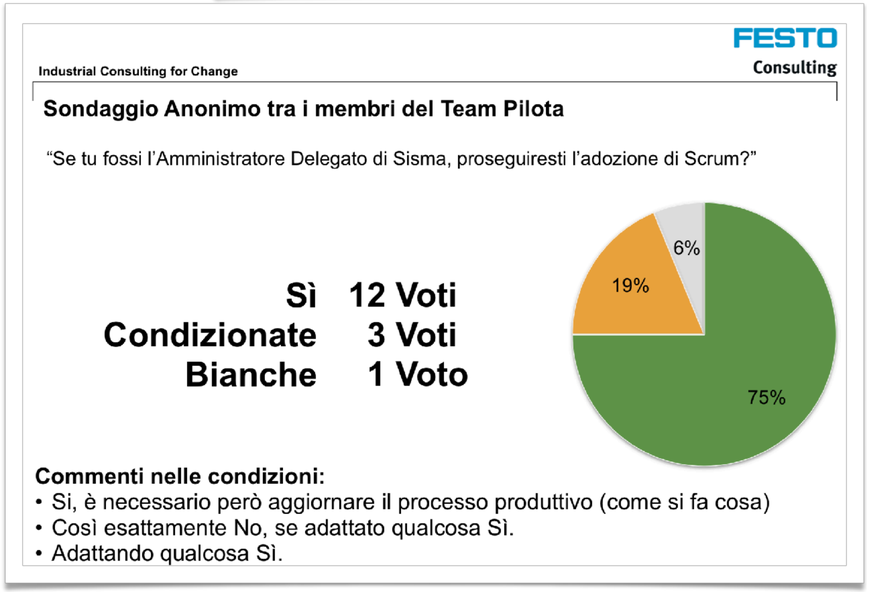


Case Study By
Paolo Sammicheli

# TEAM SELF ASSESSMENT

- At the SPRINT 8 RETROSPECTIVE, the Team used the **ScrumInc Assessment** for self-evaluating their Scrum fluency.
- For each Scrum component, they listed the known impediments. Those impediments, mostly at the organizational level, (such as Sales, Procurement, Service, etc.) filled up the EAT backlog for the organizational changes.
- Then we had an anonymous vote: "If you were the CEO, would you continue to transform the organization with Scrum?" **75% YES** (12 people), **19% YES BUT** with organizational adaptation first (3 people), **6%** (one person) **abstained**.





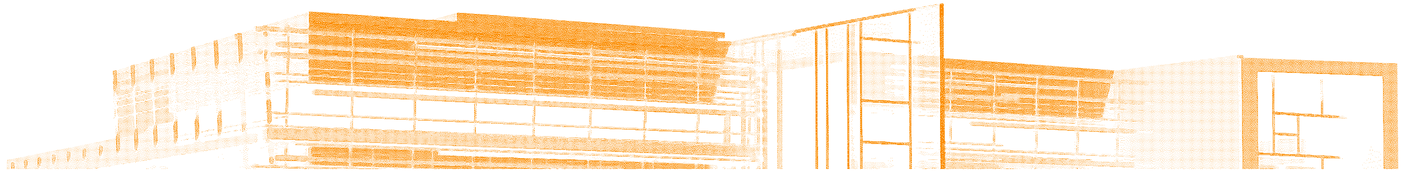

Case Study By
**Paolo Sammicheli**

# NEXT STEPS

- EAT and EMS Formation, with their own cadence.
- Two more Scrum Teams: HP Laser Machine and Software Development.
- Continue to Inspect and Adapt.

# Benefits observed

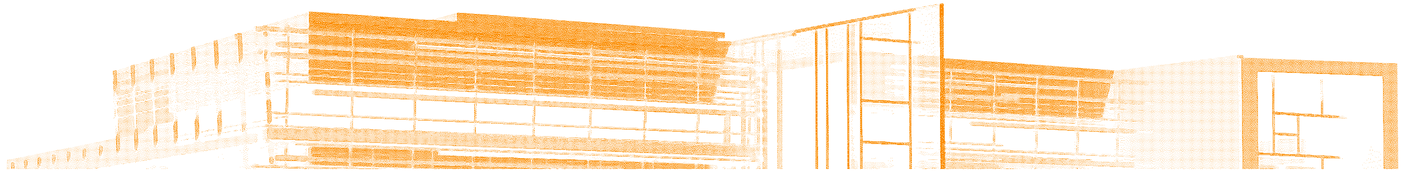
- ✓ Motivation and involvement
- ✓ Transparency
- ✓ Team work and Team accountability
- ✓ A more sustainable development, with early risks reduction
- ✓ More alignment with the overall strategy (thanks to the METASCRUM) and to better fit to market needs (thanks to the SPRINT REVIEW and frequent feedbacks)



sisma

# Point of attention

- ✓ Mindset change: it’s not your boss who tells you what to do, you need to find it out with your team.
- ✓ The rest of the company needs to be integrated into this mindset shift.
- ✓ Management needs to be proactive in solving the impediments.
- ✓ Different use of office space needs to be taken into consideration.



sisma